

What is Claimed Is:

1. An arrangement for polling external physical layer device (PHY) registers in a network, comprising:

5 a number (n) of poll registers that store information indicating which PHY registers are to be polled;

a number (m) of poll data registers that receive polled information from the PHY registers; and  
poll logic that automatically polls those PHY registers indicated by the information in the poll registers as PHY registers to be polled, and stores the polled information in the PHY registers

2. The arrangement of Claim 1, wherein the poll logic includes comparison logic that compares currently polled information with previously polled information stored in the poll data registers.

3. The arrangement of Claim 2, wherein the poll logic includes write logic responsive to the comparison logic to replace the previously polled information stored in the poll data registers with the currently polled information when the currently polled information is different than the previously polled information.

4. The arrangement of Claim 3, wherein the poll logic includes interrupt generation logic responsive to the comparison logic to generate an interrupt signal when the currently polled information is different than the previously polled information.

5. The arrangement of Claim 1, wherein  $n=m$ .

6. The arrangement of Claim 1, wherein each of the poll registers includes an address field that contains an address of a PHY containing a PHY register to be polled.

7. The arrangement of Claim 6, wherein each of the poll registers includes a register number field that contains the register number of the PHY register to be polled of the PHY indicated by the address contained in the address field.

8. The arrangement of Claim 7, wherein each of the poll registers includes an enable field that enables and disables automatic polling of the PHY register to be polled.

9. The arrangement of Claim 8, where, in one of the poll registers, the enable field is always set to enable automatic polling, the register number is set to the status register of the PHY, and the address field contains the address of a default PHY.

0050663-034600

10. The arrangement of Claim 9, wherein each of the poll registers includes a preamble suppression field that contain information which determines whether the poll logic is to send management frames to the PHY registers without preambles.
11. The arrangement of Claim 10, wherein each of the poll registers includes a default field that contains information which determines whether the address in the address field is to be used or the address of the default PHY is to be used to determine the PHY register to be polled.
12. The arrangement of Claim 11, wherein the poll logic is configured to suppress a preamble when the default PHY accepts management frames with no preamble.
13. A method of automatically polling physical layer device (PHY) registers of a network, comprising the steps of:
- storing addresses of a subset of PHY registers from a plurality of PHY registers; periodically polling the PHY registers whose addresses are stored;
  - storing polling results obtained by the periodically polling;
  - comparing the polling results with previous polling results; and
  - generating an interrupt signal when the polling results are different from the previous polling results.
14. The method of Claim 13, wherein the addresses of the PHY registers are stored in poll registers.
15. The method of Claim 14, wherein the polling results are stored in poll data registers.
16. The method of Claim 15, further comprising enabling and disabling the periodic polling by setting and clearing an enable field in the poll registers.
17. The method of Claim 16, further comprising setting the enable field of one of the poll registers to permanently enable periodic polling, and storing the address of a status register of a default PHY in an address field of that poll register.
18. The method of Claim 17, further comprising sending management frames without preambles to PHY registers in dependence on the setting of a preamble suppression field in the poll registers.
19. The method of Claim 18, further comprising setting a default field in the poll registers to control whether the address stored in the poll register is to be used as the address of the default PHY when a PHY register is polled.